

Special Retirement Ceremony Honors Forty

In this week's special retirement ceremony, the Manned Spacecraft Center honored 40 of its long-time employees.

Declaring that "all have made significant contributions to our achievements in manned space flight," Center Director Kraft conducted the first official retirement ceremony ever held by MSC.

(Dr. Kraft's remarks appear at the right just as they did on the official printed program).

Retiring with 35 years or more

of service are Paul S. Armstrong and David M. Goldenbaum.

With 30 years or more: Ivan Ertel, James Goshorn, William Hein, Edward Kawiaka, William Kitts, Ross Seger, John Turner and Harold Wilkstrom.

(Ertel was the first editor of the Roundup).

With 25 years or more: Kathryn Anderson, Paul Anderson, William Ball Sr., William Barnes, James Cavanaugh Jr., O'Dell Crow.

Blanche Fritz, Harvey Fritz,

Mark Larson, Martin Melanson, Clyde Middleton, Woodrow Rasco.

Thomas Stacey, Bill Warren, Harry Watkins, Wallace Weierman, John White and Charles Yacura Jr.

With less than 25 years: Arthur Amuedo Jr., Stanly Brown, Milton DeLucchi, Arthur Hand, Frances Jansson.

Edward Knoblauch, Ruby Lee Lorenz, Robert Seidel, Leo Silveri, Verna Smith, Harold Sweet and Quintin Ussery.

ROUNDUP



NASA MANNED SPACECRAFT CENTER

HOUSTON, TEXAS

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Recreation Center Work Begins, May Be Completed By Late Fall

By late fall—if the weatherman cooperates—MSC civil service and contractor personnel will have a new recreation center that includes a 27,500 square foot activities building, lighted parking lot, picnic area and lighted athletic areas.

November 15 to December 1 is the completion date being aimed at by J. M. Monk Building Co. Inc. of Houston, successful bidder on the \$488,500 package.

Actually, Monk has until February—240 days from the June 14 signing date—to complete the facility.

Ground was broken last week, when Center Director Kraft turned the first shovel at the site at the north end of Second Street.

The facility is being built by the Employees Activities Association.

It also will be available—with its kitchen capable of serving 500 to 600 people and its two major

open areas able to accommodate easily that many at banquet tables—for various center functions.

Presently the EAA sanctions 15 clubs with total membership of about 1,000. The latest annual athletic calendar shows 1,869 employees on 128 teams in basketball, volleyball, softball and football leagues.

Meeting rooms and playing fields are at a premium on the center and many facilities are being borrowed from Ellington or from local community groups.

The two-story activities building includes nine club rooms, the smallest 14 by 16 feet and the largest 30 by 30.

It also contains a 60 by 105 gymnasium to be marked for basketball and for volleyball, and a 50 by 100 assembly area with a suspended projection booth.

Two 510 square-foot locker rooms adjoin the gym, and balcony space overlooking the court

provides standing room for 50 to 100 spectators.

The two floors feature a lounge, rest rooms and storage space. The assembly area also has at one end to serve future theatrical clubs. Both the carpeted assembly area and the epoxy-plastic floored gymnasium double as banquet rooms.

Outdoor portions of the project include a triple tennis court with fencing and lighting, lighting of three presently existing baseball diamonds, and a 5,000 square foot lighted parking lot.

The Roundup will zero in on specific areas of the project as construction progresses.

Contracts experts who worked the recreation facility project into shape are Larry Lindley, Ray LaPlante and Ruth Wood. Bill Milam is facilities engineer, and project engineer is Exchange Council chairman Riley McCafferty.

We meet today to honor employees of the Manned Spacecraft Center who are ending their careers with the Federal government through retirement. This occasion, the first official retirement ceremony held by the Center, recognizes the largest single group of retiring employees to date. Most of the people honored here have at least 25 years of service and a few have completed almost 40 years of government employment. Some of them have spent their entire careers with the National Advisory Committee for Aeronautics and the National Aeronautics and Space Administration, and all have made significant contributions to our achievements in manned space flight.

I could not begin to list the accomplishments of all the honorees here today, but each, in his or her way, has played an important role in our successful efforts to conquer space. We have progressed from the first 15-minute suborbital flight of Alan Shepard to an 11-day flight to the moon, which included days of exploration on the lunar surface, by astronauts Young, Duke, and Mattingly. This recent flight of Apollo 16 was the Nation's 26th manned space flight, our eighth flight to the moon, and our fifth lunar landing. All of this has been done in the short span of 11 years. Our goals were reached and our accomplishments were made through the commitment, dedication, and loyalty of each employee of this Center.

To the honorees I can only say, thank you for a job well done. I join your friends in wishing you the best of health and happiness as you step into your retirement years.

Christopher C. Kraft, Jr.
Director

Skylab Chamber Test to Keep Three Astronauts in 'Space' Up To 56 Days

Three astronauts will spend up to 56 days in an altitude test chamber here beginning in mid July to obtain medical data and evaluate medical experiment equipment for Skylab, which is scheduled for flight in 1973.

Astronauts Robert Crippen, Dr. William Thornton and Karol Bobko comprise the test crew for the Skylab Medical Experiment Altitude Test (SMEAT).

Crippen is crew commander, Dr. Thornton, science pilot and Bobko is the pilot.

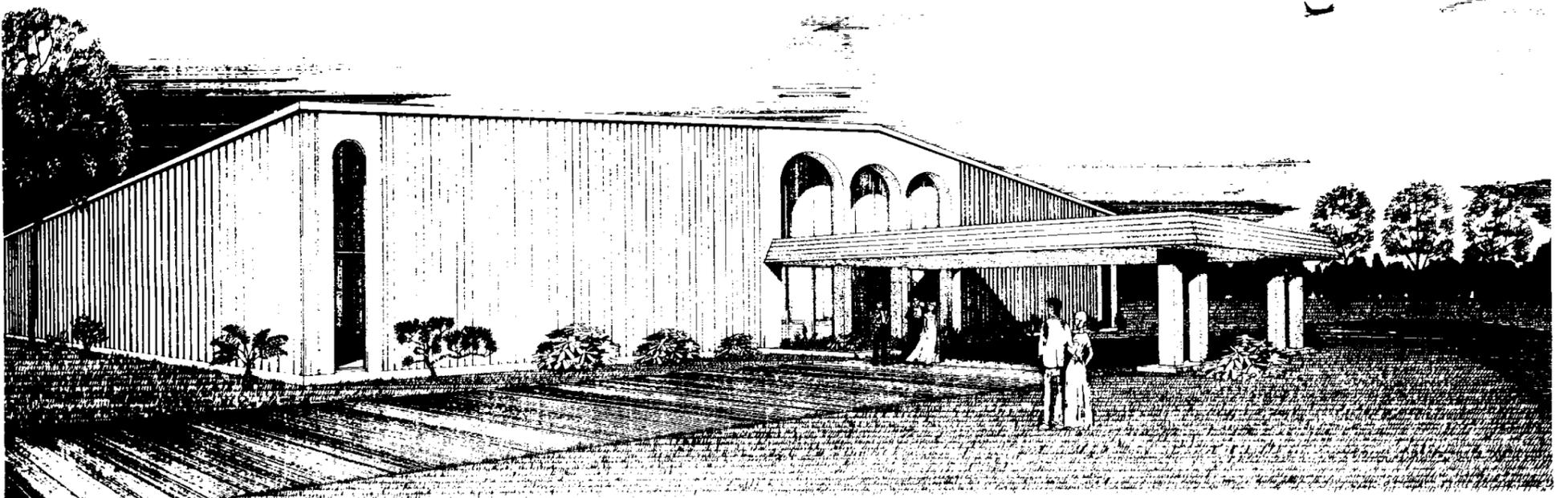
The test will closely simulate Skylab mission conditions, with the exception of weightlessness

to obtain baseline data which can be compared to actual flight data in assessing crew's status during long duration weightlessness flights.

SMEAT will be conducted in Crew System Division's 20 foot chamber which will provide an atmosphere for the crew duplicating the Skylab Orbital Workshop atmosphere.

The ground based simulation test is directed primarily toward obtaining and evaluating baseline medical data from those medical experiments which may be affected by the Skylab environment.

(Continued on Page 2)



Clear Lake Samplers Earn Honors

Twelve MSC area students have received commendations from President Nixon for their 1971 summer study of Clear Lake pollution problems.

The dozen, who already had earned \$500 fellowships for their work, got Presidential Certificates of Merit for "service to the community and the nation through environmental protection achievement."

MSC Deputy Director Sigurd Sjoberg presented the awards to the young people, one of them his own son, and to 12 organizations and individuals who supported the effort.

The students, all in Clear Creek High when the study was conceived, are:

Linda Betancourt, John Crane, Charles Doland, Craig Faupell, Jim Huggins, David Klopfenstein.

Gregg Lake, Ruth Melton, Cheryl Murphy, Phil Naecker, Jeff Rosenberg and Bob Sjoberg.

Merit certificates also went to the Earth Awareness Foundation, Mike R. Eastland of the Gulf Coast Waste Disposal Authority, former astronaut Walter Cunningham of the Earth Awareness Foundation board of directors, GCWDA Manager Jack Davis.

Former Clear Lake Water Authority director Ronald J. Haron, GCWDA Chairman Royal Hatch, EAF President Eugene E. Horton, WCID 75 Secretary-Treasurer Dave Keck.

Socrates Lamprose of Brown & Root-Northrop, Dr. H. Nugent

Myrick of University of Houston, Astronaut Russell Schweickart, and Clear Creek High School teacher Ann Sigler.

A special "Award of Excellence" was presented to Pam S. Ward, supervisor of the student group.

The twelve project participants spent nine weeks in the summer of '71, first studying with Dr. Myrick of the U of H Environmental Engineering Department, then collecting water samples from various points in the Clear Lake Basin.



SAMPLERS HONORED—Among the dozen area students honored for their work in sampling Clear Lake Basin water pollution were these four: Bob Sjoberg, Cheryl Murphy, Phil Naecker and John Crane. Their framed awards are Presidential Certificates of Merit recognizing the summer 1971 study of Clear Lake water problems.

Dozen MSC Employees, Two Teams Receive Apollo 16 Honors at Marshall

Twelve Manned Spacecraft Center employees and two engineering teams yesterday received Apollo 16 achievement awards in ceremonies at the Marshall Space Flight Center, Huntsville, Ala.

Receiving NASA Exceptional Service Medals were Melvin F. Brooks, Richard R. Baldwin, Gary A. Coultas, William C. Fischer, Tommy W. Holloway. James C. McPherson, David L. McCraw, Archibald E. Morse, Jr., Jones W. Roach, John R. Seviere, James C. Stokes, Jr. and Clinton L. Taylor.

Accepting the Apollo 16 Engineering Support Team Group Achievement Award will be Ronald W. Kubicki of the Apollo Spacecraft Program Office, and Paul D. Gerke of the Apollo Spacecraft Program Office, and Paul D. Gerke of the Lunar Surface Project Office will accept a similar award for the Ultra-Violet Camera Team.

The Engineering Support Team is being recognized for its real-time analysis of the Apollo 16

service propulsion system problem which delayed the lunar landing by two revolutions.

A total of 25 Exceptional Service Medals will be given employees of MSC and other NASA field centers, four Group Achievement Awards, eight Exceptional Scientific Achievement Medals; 10 Public Service Awards to individual aerospace contractor employees and three industry Public Service Group Achievement Awards.

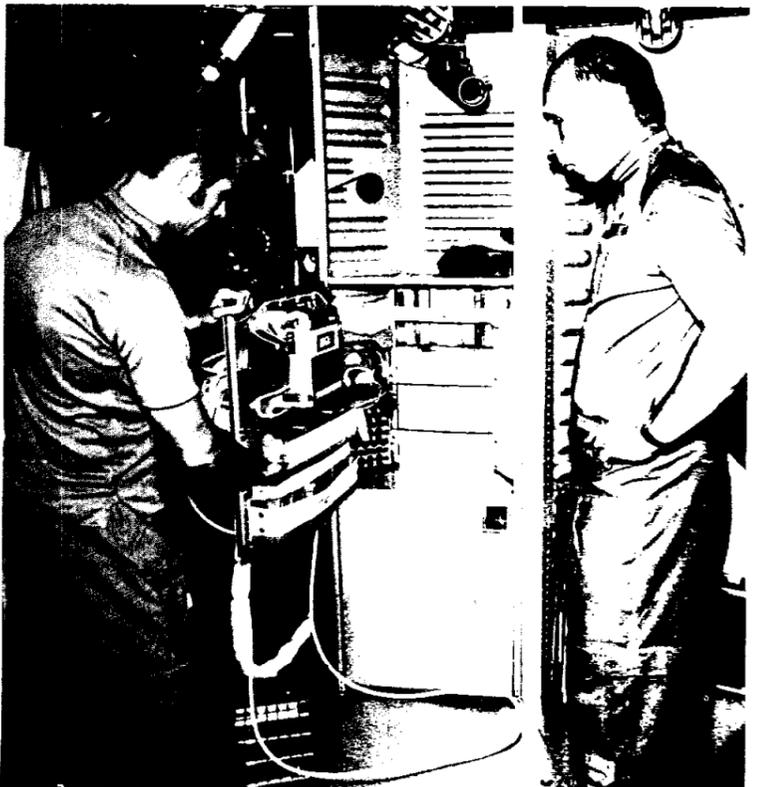
Scientists Asked For Experiments On New Satellite

Scientists in this country and abroad have been invited to propose investigations to be conducted with a small astronomy satellite called International Ultraviolet Explorer.

It would be built and operated jointly by NASA, the Science Research Council (SRC) of the United Kingdom, and the European Space Research Organization (ESRO).

Full approval of the flight project has not yet been obtained, but planning is proceeding with an expected launch in 1976 of a 669-pound spacecraft intended to make both high- and low-resolution ultraviolet observations of stars, planets, and other celestial objects.

Scientists whose proposals are chosen will form a user group of "guest observers" to help plan the mission and to conduct the initial observing program.



SKYLAB TEST—Astronauts Thornton and Bobko work with the bicycle ergometer, top, and Crippen and Thornton check out the recreation facilities—tape deck, books, dart board, all in the close-packed compartment Crippen is inspecting—in the Skylab mockup being used for the SMEAT.

Skylab

(Continued From Page 1)

There are 16 medical experiments scheduled for Skylab which will be conducted in SMEAT involving studies of the cardiovascular system, the expenditure of energy to do measured work, and food and nutritional investigations.

Secondary objectives of the test include the evaluation of selected items of experiment equipment, medical experiment operating procedures and means of

handling experiment data.

In addition, this test will aid in training the ground-based medical operations team for IRS participation during the space flight.

While the primary emphasis of this study is directed at obtaining medical data, the test crew will also engage in a full schedule of activities involving work, eating, leisure, recreation and sleep.

During the work portion of the day, the crew will conduct experiments, monitor the environment, evaluate the operation of experiment and perform allied test functions.



This bonus protection, provided without any increase in member contributions, will be reconsidered at the end of the period.

Chapter officers Frank P. Parker, MSC extension 5326, Jack R. Lister, 2358, and Roy C. Aldridge, 5410, can provide additional information regarding the NEBA program, now in its 20th year.

ROUNDUP

NASA MANNED SPACECRAFT CENTER

HOUSTON, TEXAS



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Roundup Swap-Shop

Swap Shop advertising is available to MSC and on-site contractor personnel. Articles or services must be offered as advertised, without regard to race, religion, sex or national origin. Ads should be 20 words or less, including home telephone number. Name and office code must accompany, but need not be included in ad copy. Typed or printed copy must be received (AP3 Attn: Roundup) by Thursday of the week before publication.

VEHICLES

57 Chevy 4-dr sdn. will sell to loving home cheap. needs heads (283). Juday 481-3946.
 69 Jaguar XKE coupe. xint cndn. Harpold 534-4395.
 71 Mazda RR2, rotary engine. AM/FM, 4-dr. like new \$2670. Singleton 488-6126.
 65 Pontiac Catalina 4-dr sdn. auto. pwr steer. air. radio. Senter 482-7835.
 65 Pontiac Catalina sta wgn. air. gd mech cndn. \$500. Smylie 334-1768.
 70 Coleman tent camper. stove. refrig. sink. elec brakes. 12V system. many other extras. sleeps 8. Caston 675-0876.
 Candy red Honda 70 SL100 mint cndn. xtras. 488-2930.
 67 VW sdn. sun roof. \$650. Gray 488-1549.
 67 Chevrolet SS Impala 2-dr 327 V8. new dual exhaust. std trans. air. radio. \$850. Wade 941-8247 after 4.
 70 Yamaha 350cc twin xint cndn \$525.
 70 Yamaha 125cc Enduro incl 175cc hop-up kit. xint cndn \$425. Hutchins 538-2228 (Kemah).
 71 white Pinto. large engine. auto. air. radio \$1860. Vaughn 488-2240 after 5.
 Travel trailer, 68 Terry 20' tandem. s/c. sleeps 6. xint cndn \$2150. Sievers 585-2654 (Alvin).
 70 Honda CT70 Mini-trail gold. xint cndn. under 2400 mi. \$250. Blackshear 946-8312.
 71 1/2 ton Chevy truck. 4-wheel drive. heavy-duty components. air. saddle tanks. camper package \$4000 or w/ 71 Dreamer camper \$7000. Vaughn 488-2240 after 5.
 63 VW S375. McCown 471-0716.
 64 Impala sta wgn. air. xint cndn. low mi. buyer's dream. book value. 488-4213.
 68 Sears 106cc motorcycle. licensed & safety sticker. incl spare trail muffler & pipe. luggage rack. misc spare parts. rcnt overhaul \$200 488-6737 after 5.
 68 Pontiac Catalina 4-dr. full equip. gd cndn \$1195. Porter 941-2108 after 5.
 71 Mustang. 16,000 mi. xtra clean. body stripes. dual mirrors. tape deck. straight shift. 250 engine \$2295. Hammack 334-2986.
 67 T-Pontiac 6 cyl. auto. OHC. fctry air. power. vinyl red GTO-style coupe. one owner. good maint. Seabrook garage reference. \$750 firm. Morris 333-2910.
 69 mobile home 12 x 50. air. carpet. 2 bdrms. \$500 equity. 479-5475 after 5.
 71 Honda Ace 100B. great shape. never raced. \$350. 479-5475 after 5.

WANTED

IH Cub Cadet or similar lawn tractor. pref w/ mower & dozer blade attachments. 471-4371.
 Someone to pour & roughly level 60' x 10' concrete slab. 471-4371.
 Ride to Work. SW Houston on 610 to Bldg 2. car pool or will drive to your place. Blackburn 665-4505.
 Female Siamese cat or kitten. Becker 643-4151.
 Old small to medium inboard boat. want bargain. 471-4371.
 Summer employee would like to form/join carpel from SW Houston area 7:30-4 hours. Barbara 644-0325.

Flute in good condition for beginning band student. 334-2764.

For rent: new CLC townhouse. all-elec. 2 bdrm 2 bath. Miller 488-0621 after 4.
 CLC 4-2-2 near school. rac center. parks. fences. fireplace. many xtras. over 2500'. 6 1/4 loan or refinance. Johnson 488-2207.

Air conditioned furnished 1 bdrm cottage. garage. storage bldg. shade trees. convenient. ideal for young couple or retirees. Wiseman 534-3802.

Sagemont Spanish 3-2-2 den. liv rm. covered patio. \$25,000 w/ \$3900 down. Middleton 481-2128 after 6.

League City - Newport 3-2-2 Spanish. study. new cpt. cent air. fenced. many xtras \$26,500. assume 6 1/4 or refinance. by owner. 534-2949.

For lease: 3 bdrm 2 bath all brick on Bay 8 mi from MSC. \$165 mo. Randall 554-3884.

Nassau Bay Old English 3 bdrm 2 bath. family rm w/ corner fireplace. by owner. 333-3349.

BOATS

17' Fabugas i/o 120hp Merc-Cruiser tri-hull w/ trailer. like new cndn. many xtras. Johnson 488-2207.

19' O'Day Mariner w/ working sails. 5hp obm. sea head. sink. cushions. new cockpit cover. life jackets. \$1950. Schmidt 534-5245.

71 Sterncraft Capri 19' deep V. i/o 302cu V8 188hp '888' Mercruiser outdrive. big-wheel trailer. full canvas cover. \$4600. Kunecki 538-2233.

71 tri-hull 17' fishing/skiing boat w/ canopy. controls & equip. '70 obm 120hp. trailer. xint cndn. reduced to \$2295. Bland 333-4580.

Luxurious 16' speedboat 120hp obm. trailer & equip incl pro ski-tow bar. '71 model in mint cndn reduced to \$2995. Bland 333-4580.

17 1/2' Larson i/o '68 model. 120hp Chevy II. powerlift. all ski acces. galv trailer. xint cndn. 30-day guarantee. priced to sell. Dornbach 334-3459.

21' Southcoast sailboat w/ working sails and 5hp obm \$1800. Hill 332-3838.

HOUSEHOLD ARTICLES

French provincial dining set. fruitwood finish. round table w/ 4 caned-back armchairs. like new \$300. 644-0853.

Portable Magnavox stereo. nice sound. good for kid's room at home or school. needs minor repair. 488-3294 after 5.

19" Sears color TV. vry gd cndn \$100. 554-2949.

MUSICAL INSTRUMENTS

Leban cyclone 4 pick-up electric guitar complete w/ case & amplifier \$125. Blackshear 946-8312.

Flute. silver Artley closed-hole. 5 yrs old. gd cndn \$75. 482-3104.

Gibson Falcon amplifier. gd cndn. gd sound \$125. 471-3086.

PETS

AKC Sheltie male pups. sable. champion pedigree. \$75 up. Morris 729-1545.

LOST & FOUND

Lost: Cross pen w/ initials CWLW engraved. 483-4073.

MISCELLANEOUS

Men's ice skates. Sears. size 9. used once. new \$13 asking \$8. 488-1921.

Crossman 760 Powermaster BB gun also shoots 177 cal pellets. less than 1 mo old. shot fewer than 100 times. sacrifice \$22.50 incl pint BBs & box .177 pellets. Moran 471-4636.

GM air conditioner compressor. radiator. tubing \$40. Two 62 Olds 88 car doors \$10 ea as is. Back window 62 Olds 88 \$5. 482-3104.

Colt Det. Spl. 32 cal 2" bbl. w/ ammo. brass & holster. perfect. \$80. Musgrove 488-3966.

Coleman camping heater 3500 btu. used one mo. new \$24 asking \$15. 488-1921.

Underwood manual typewriter gd cndn \$37.50. 649-2569.

Camper shell. insulated 30" high Winnebago for long wide-bed pickup. all safety glass. gd cndn \$100. McCright 482-3105.

Ham station. Hallicrafters HT40 xmitter. matching SX140 rcvr. 682 M VFO. electronic keyer. all access \$125. Staresinich 332-1343.

Surfboard. twin fin like new. less than yr old. list \$150 sell \$95. Sue 334-2108.

Elec Smith Corona typewriter 50/60Hz 110/220V & battery. typed only 4 times. new \$200 asking \$150. 488-1921.

Nikkor wide angle lens 35mm f2.8. vry gd cndn \$68. Pearce 747-3646.

Chrome rear bumper 68 Chev/GMC pickup \$10 or best offer. Smith 483-4406.

Hallicrafter Sky Buddy shortwave radio. working order in 3 of 4 bands \$20. Pearce 747-3646.

PROPERTY & RENTALS

Lot on Lake Livingston 75 x 137. power. water. restricted. \$3500. Richardson 946-7587.

Brookglen 1 1/2 story 4-2-2 fenced. landscaped. carpets. drapes. pool privileges. adjacent San Jacinto College. \$29,000. 479-5132.

Wildwood Resort City large wooded lot off #9 tee. 400 acre lake. oak. magnolia. dogwood & piney woods. Caston 675-0876.

El Lago 4-2-2. large fenced wooded lot. game room. greenhouse. many xtras. RIFed. must sacrifice. 334-3225.

Rent: Sagemont corner 3-2-2. liv/din/den. cent air. cpts. drapes. many bilt-ins. \$250 mo plus property deposit. 481-0062.

LATE ENTRIES

66 Corvair. low mi. auto. air. buckets. white. does not leak or use oil. \$395. Turley 334-2153.

Sonar D-10 (0-60 ft) depth finder. in carton. \$100. White 554-4472 (League City).

15hp Michigan Marine Senior Twin inboard engine. Paragon gear. \$100. White 554-4472.

Want: electric. pref AC. winch capable pull 1,000 lb load at 15mph. 471-4371.

Olds tenor sax. xint cndn \$250. Scott 554-3489.

Bolex 16mm reflex pro movie camera. turret lenses. Pan-Cinor zoom. grip. fader. filters. case \$1595. Ross 946-6738.

Antique watch. collectors item. key to wind & set. Also deluxe belt vibrator. like new. Webb 485-2608.

Full set golf clubs w/ bag & cart. gd cndn. xint for beginner. Whitcomb 483-3491.



SERVICE AWARDS—MSC Director Kraft, upper right, was all smiles as he awarded service certificates to 11 Center Operations Directorate personnel. Recognition of 25 years of service was given to (starting top left) Norman Gabbard of Technical Services, Juanita Crow of Management Services, Helen McCord of Logistics, and Peter Brown Jr. of Management Services. Honored for 30 years of service were Joseph Blanco, Leroy Fehrenkamp, Leon Galler, David McCraw and Charlie Rogers Jr., all of Tech Services, and Rodney Sanborn and Pete Strahl of Management.

Itek Contracts Multispectral Camera System

The Manned Spacecraft Center has awarded an estimated \$1.8 million contract to Itek Corporation, Optical Systems Division, Lexington, Massachusetts for three multispectral camera systems to be flown aboard MSC's earth resources aircraft in conjunction with upcoming Skylab missions.

The Airborne Multispectral Photographic System (AMPS) will be a modified version of the multispectral photographic camera which will be flown on the earth-orbital Skylab missions as part of experiment S-190.

The Skylab S-190 multispectral photographic facility will obtain photographs from an altitude of 235 miles, each showing more than 8,000 square miles of the earth's surface.



NEW FACES—Here are 38 faces that will become familiar to many MSC personnel over the next two months. These are members of the 45-strong NASA-ASEE Summer Faculty Fellows group assigned to the Manned Spacecraft Center for a ten-week tenure. They represent 32 universities in 20 states. The program is managed jointly by MSC's University Affairs Office and the University of Houston. The American Society of Engineering Education participants will be engaged in various research projects and in engineering system design.

NASA Facts: Mission Control Center

Communications and Computers Vital to Control Center

... This third and final installment of the NASA Facts brochure on the Mission Control Center describes support systems that relatively few people, including MSC employees, ever get to see.

The Mission Operations Control Room, with its rows of consoles and its large display screens, is a familiar sight to many television viewers around the world, for a view of the busy MOCR during peak-interest periods of United States manned space flights has become almost a standard scene in video coverage of the mission.

But other equally busy areas of the Mission Control Center are just as important to the success of the flight.

One such area is the communications, command, and telemetry system (CCATS) on the first floor.

The CCATS processes incoming digital data and distributes it on a real-time basis to the facilities associated with the MOCR and support room displays.

The system also handles the digital command signals to the spacecraft—the up-data link which lets Mission Control do such things as keep the spacecraft guidance computer's facts and figures up to date.

The real-time computer complex (RTCC), also on the first floor, processes incoming tracking and telemetry data and compares actual mission conditions with predetermined parameters—simply, it compares what is happening with what should be happening.

Often, it does not even bother displaying the information unless something is going wrong.

As the system evaluates factors such as spacecraft position and velocity, it also computes what maneuvers should be made to correct any shortcomings.

The RTCC, as its name implies, computes and evaluates on a real-time basis: through the

high-speed electronic data from the worldwide network of tracking stations, the real-time computer complex "sees" what is happening at almost the instant it happens; its computations are fast enough to correct a situation as it develops.

Using this same data, the RTCC a second live mission can be controlled or a simulated flight conducted to train additional teams

also predicts where the spacecraft will be at any given time in the flight.

Further, the computers are used to give acquisition information that helps the tracking stations point their antennas at the spacecraft.

And the RTCC is used to monitor and evaluate telemetry information of flight controllers.

The fifth serves as a backup for

any of the first four, or it can be used separately to help develop and perfect the many computer programs used in each flight.

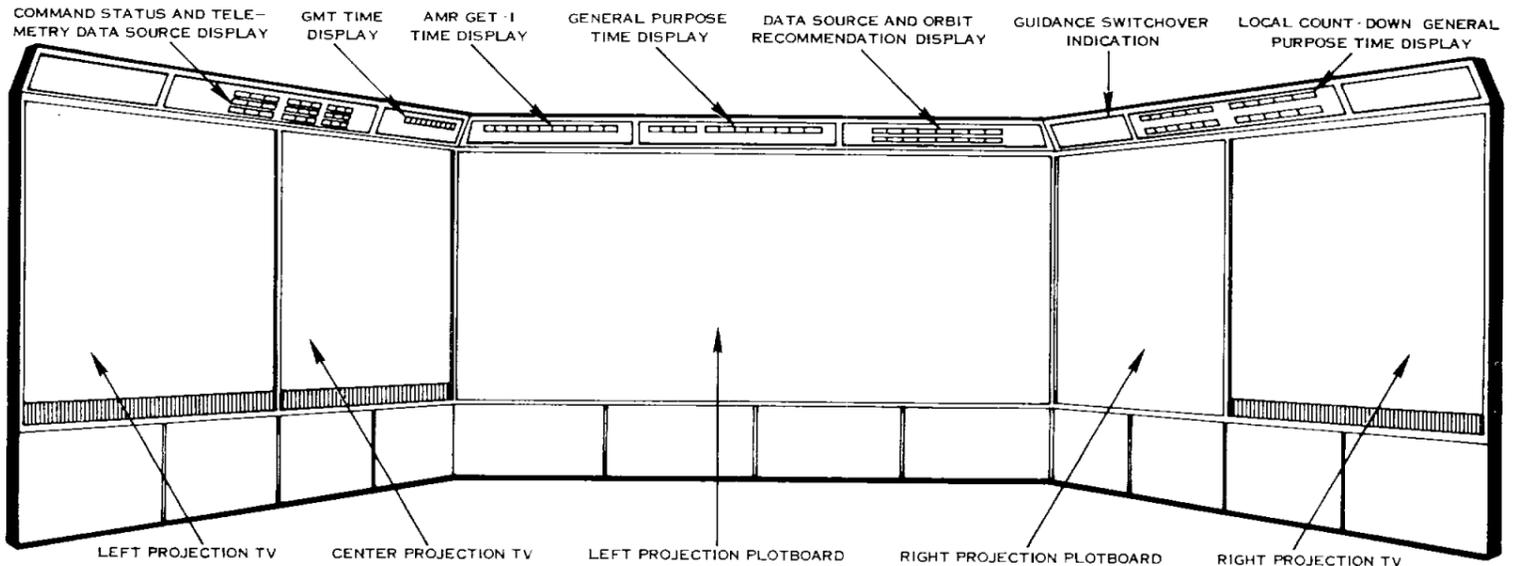
Information from the spacecraft to be used that personnel and equipment are performing normally.

Of the five primary computers in the real-time computer complex, two are used to support one MOCR and two the other, where

Another important facility is

the voice communications system.

It enables the flight controllers to talk to one another without having to leave their consoles, and it connects them to the specialists in the support rooms, to flight crew training facilities where specific procedures can be tried out on spacecraft simulators before they are recommended to the mission crew, and to person-



WALLFUL OF DISPLAYS—The front wall of the Mission Operations Control Room is one large display board, with most of the various presentations being processed by behind-the-scenes equipment and people. From the constantly updated displays, flight controllers keep abreast of the mission as it develops. The display walls are similar in both the second and third-floor MOCRs.

Radio Club to Take Part in Weekend Drill Checking Emergency Procedures

MSC Amateur Radio Club members will take part, along with thousands of other "Hams" throughout the country, in a Field Day tomorrow and Sunday to check out equipment and procedures to provide communication in time of emergencies or natural disasters.

Hams have proven particularly valuable in maintaining communication during the violent weather that hits the Gulf Coast around this time of year.

Simulated emergency operations will be conducted this year at the League City Park off

Main Street.

The public is invited to observe the operations as MSC amateurs contact similar groups working out of makeshift quarters with portable generators as emergency power supplies.

Field Day begins at noon on Saturday.

MSC club members still recall the real thing of two years ago when Cecelia wiped out normal communications to and from Corpus Christi.

Several MSC operators helped out in that emergency.

Model Rockets Fly Tomorrow, Sunday at MSC

Rockets will fill the air tomorrow and Sunday as the National Association of Rocketry's Apollo NASA Section holds its annual Southwest Regional II meet at the Manned Spacecraft Center.

Rocket model buffs from six states will launch more than 200 rockets in nine events—including the Egg Loft—in the two-day open-to-the-public meet.

NAR was established to encourage model rocketry under safe conditions.

nel along the Manned Space Flight Network.

It also provided the voice link between the control center and the spacecraft.

The separately located simulation checkout and training system enables flight controllers in the Mission Control Center and flight crews in spacecraft simulators at the Manned Spacecraft Center and Kennedy Space Center in Florida to rehearse a particular procedure or even a complete mission.

The system even simulates voice and data reception from the far-flung stations of the Manned Space Flight Network.

Space Club Opens '72 Goddard Essay Competition

The National Space Club has opened its 1972 Robert H. Goddard Historical Essay Award competition, an annual nationwide affair open to any U. S. citizen.

The prize is \$500, the Goddard Historical Essay Trophy, and a certificate.

Essays, due by November 1 at the National Space Club, 1629 K Street NW in Washington D. C. 20006, may deal with any significant aspects of the historical development of rocketry and astronautics and will be judged on their originality and scholarship.

They may bring new information to light or may cast new and different light on events of individuals influencing rocketry and astronautics in the U. S.



SUMMER AIDS '72 — These are 80 (count 'em) of the 110 Summer Aids spending the next three months at MSC to help relieve the critical clerical shortage, at the same time learning the ins and outs of the space program. They are here under the 1972 Federal Summer Employment Program for Youth, about which President Nixon has said "For many young Americans, particularly needy students, summer jobs can be the decisive factor in completion of their education," and "Those who are engaged in this year's program can also gain practical work experience and a better understanding of how their Government serves the people. Agencies, in turn, can benefit from the contributions made by these enthusiastic, energetic young summer workers."